



# SLOVENSKI STANDARD SIST EN ISO/IEC 80079-49:2024

01-december-2024

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## **Eksplzivne atmosfere - 49. del: Plamenske zapore - Zahtevane lastnosti, preskusne metode in omejitve uporabe (ISO/IEC 80079-49:2024)**

Explosive atmospheres - Part 49: Flame arresters - Performance requirements, test methods and limits for use (ISO/IEC 80079-49:2024)

Explosive Atmosphären - Teil 49: Flammendurchschlagsicherungen - Leistungsanforderungen, Prüfverfahren und Einsatzgrenzen (ISO/IEC 80079-49:2024)

Atmosphères explosives - Partie 49: Titre manque (ISO/IEC 80079-49:2024)

**Ta slovenski standard je istoveten z: EN ISO/IEC 80079-49:2024**

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29.260.20	Električni aparati za eksplozivna ozračja	Electrical apparatus for explosive atmospheres

**SIST EN ISO/IEC 80079-49:2024**

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EUROPEAN STANDARD

EN ISO/IEC 80079-49

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2024

ICS 13.220.20

Supersedes EN ISO 16852:2016

English Version

## Explosive atmospheres - Part 49: Flame arresters - Performance requirements, test methods and limits for use (ISO/IEC 80079-49:2024)

Atmosphères explosives - Partie 49: Arrête flammes -  
Exigences de performance, méthodes d'essai et limites  
d'utilisation (ISO/IEC 80079-49:2024)

Explosive Atmosphären - Teil 49:  
Flammendurchschlagsicherungen -  
Leistungsanforderungen, Prüfverfahren und  
Einsatzgrenzen (ISO/IEC 80079-49:2024)

This European Standard was approved by CEN on 5 February 2024.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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## European foreword

This document (EN ISO/IEC 80079-49:2024) has been prepared by Technical Committee ISO/TMB "Technical Management Board - groups" in collaboration with Technical Committee CEN/TC 305 "Potentially explosive atmospheres - Explosion prevention and protection" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2025, and conflicting national standards shall be withdrawn at the latest by October 2025.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 16852:2016.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

## Endorsement notice

The text of ISO/IEC 80079-49:2024 has been approved by CEN as EN ISO/IEC 80079-49:2024 without any modification.

## Annex ZA (informative)

### Relationship between this European Standard and the essential requirements of Directive 2014/34/EU aimed to be covered

This European Standard has been prepared under a Commission's standardization request M/596 to provide one voluntary means of conforming to essential requirements of Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres (recast).

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

**Table ZA.1 — Correspondence between this European Standard and Directive 2014/34/EU**

Essential Requirements of Directive 2014/34/EU	Clause(s)/subclause(s) of this EN	Remarks/Notes
1.0.1 Principles of integrated explosion safety	Clause 5; 14.1; 14.2; 14.3; Annex E.1	
1.0.2 Design and manufacture considerations	7.1; 7.2; Clause 14; Annex C; Annex E.1	
1.0.3 Special checking and maintenance conditions	Annex C; Clause 12	
1.0.4 Surrounding area conditions	14.1; Annex E.1	
1.0.5 Marking	Clause 13	
1.0.6 Instructions	Clause 12; Annex E	
1.1.1 Operational stresses on material	7.1; 14.1; Annex C; Annex E.1	
1.1.2 Reaction of material	14.1; Annex C; Annex E.1	
1.1.3 Wear of material	7.1; 14.1; Annex E.1	
1.2.1 Design and construction for safe operation	5.1; 14.1, Annex E.1; 14.2; 14.3; 14.4; 7.1	
1.2.3 Enclosed structures and prevention of leaks	14.5; 14.2	
1.2.5 Additional means of protection	Clause 12	
1.2.8 Overloading of equipment	7.3.4; 10.1; 11.1	

Essential Requirements of Directive 2014/34/EU	Clause(s)/subclause(s) of this EN	Remarks/Notes
1.2.9 Flameproof enclosure systems	7.3; 14.2; 14.3	
1.3.1 Hazards arising from different ignition sources	14.1; Annex E.1	
1.3.2 Hazards arising from static electricity	Annex B; Annex C	
1.4.1 External effects	14.1; Annex E.1	
1.4.2 Mechanical, thermal and chemical stresses	14.1; Annex E.1	
1.6.4 Hazards arising from connections	14.3	
3.0.1 Dimensioning	Clauses 6; 7; 8; 9; 10; 11	
3.0.2 Design and position	Clauses 6; 7; 8; 9; 10; 11	
3.0.4 Outside interference	13.3	
3.1.2 Shock waves	14.4; 7.3.3	

**Table ZA.2 — Applicable Standards to confer presumption of conformity as described in this Annex ZA**

Column 1 Reference in Clause 2	Column 2 International Standard Edition	Column 3 Title	Column 4 Corresponding European Standard Edition
ISO/IEC 80079-34	ISO/IEC 80079-34:2020	Explosive atmospheres – Part 34: Application of quality systems for ex product manufacture	EN ISO/IEC 80079-34:2020
IEC 60079-0	IEC 60079-0:2017	Explosive atmospheres – Part 0: Equipment – General requirements	EN IEC 60079-0:2018 <sup>1</sup>
IEC 60079-1	IEC 60079-1:2014	Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures "d"	EN 60079-1:2014 <sup>2</sup>

<sup>1</sup> As impacted by EN IEC 60079-0:2018/AC:2020-02

<sup>2</sup> As impacted by EN IEC 60079-1:2014/AC:2018-09

**EN ISO/IEC 80079-49:2024 (E)**

The documents listed in the Column 1 of Table ZA.2, in whole or in part, are normatively referenced in this document, i.e. are indispensable for its application. The achievement of the presumption of conformity is subject to the application of the edition of Standards as listed in Column 4 or, if no European Standard Edition exists, the International Standard Edition given in Column 2 of Table ZA.2.

**WARNING 1** — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

**WARNING 2** — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

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# ISO/IEC 80079-49

Edition 1.0 2024-05

## INTERNATIONAL STANDARD

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**Explosive atmospheres – iTeh Standards**  
**Part 49: Flame arresters – Performance requirements, test methods and limits**  
**for use**

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INTERNATIONAL  
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## EXPLOSIVE ATMOSPHERES –

### Part 49: Flame arresters – Performance requirements, test methods and limits for use

#### FOREWORD

- 1) ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.
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ISO/IEC 80079-49 has been prepared by subcommittee 31M: Non-electrical equipment and protective systems for explosive atmospheres, of ISO/IEC joint technical committee 1: Information technology.

This edition cancels and replaces ISO 16852:2016, which has been technically revised. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to ISO 16852:2016:

- a) adaptation of the relevant IEC TC 31 requirements on standards;
- b) modification of the upper limit of the temperature range from 150 °C to 200 °C under the condition that  $T_0$  shall be not larger than 80 % of the auto ignition temperature of the gas-air-mixture;
- c) change of the term "explosion group" to "equipment group" due to editorial requirements in IEC/TC 31;
- d) clarification of the conditions and requirements for flame arresters whose intended operating conditions are outside the atmospheric conditions in 7.3.4 and 7.3.5;

- e) clarification of the requirements on the information for use in Clause 12 f) concerning the burn time;
- f) addition of a permission to the construction requirements both in 7.1 and 14.1 to substitute visual inspection by performing a flow test;
- g) addition of a flow chart for the evaluation of test results as Annex D.

The text of this International Standard is based on the following documents:

Draft	Report on voting
31M/212/FDIS	31M/223/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

A list of all parts in the ISO/IEC 80079 series, published under the general title *Explosive atmospheres*, can be found on the IEC website.

NOTE The following print types are used:

- Words in *italic* font in the text are defined in Clause 3.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs) and [www.iso.org/directives](http://www.iso.org/directives).

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